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To Study The Relationship Between Intelligence, Academic Attainment And Participation In Allied Activities.

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M.A.Ph.D.(Chicago)

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CERTIFICATE

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Preface

The need for strengthening school programmes had never been so embarrassing as to day. Education has to play a vital role in the process of reconstruction and emerging social order. "The destiny of India is now being shaped in her classrooms", remarks the Kothari Commission. Dr. Kothari observes "Education has always been important but, perhaps never more so in man's history than today. In a science-based world, education and research are crucial to the entire developmental process of a country, its welfare, progress and security. It is characteristic of a world permeated by science that in some essential ways the future shape of things is unpredictable."

The changing goals of education and the urge for construction and reconstruction of educational experiences, demand an educational programme which provides maximum opportunities to the student for the spontaneous fm flowering of their personality. Such a programme includes different learning activities— academic and allied.

The present study high-lights the relationship between Intelligence, Academic Achievement and participation in Allied Activities. It throws light how the students, with different mental potentialities, cling to allied activities and in what type of activities they (students of different calibre) prefer to engage themselves.

The study reveals some interesting facts that mostly the intelligent students participate in such allied activities which need higher reasoning or creative impulses such as — Debate and Creative Writings. They also make distinguishing mark in aesthetic activities (dramatics) games and sports. Whereas average students participate in cultural activities, games and sports. Below average students either cling to none or two games, community service,

scouting with ordinary performance.

The study also reveals that in most of the institutions there is little opportunities or participation in allied activities.

The study is significant with a view that it breaks new ground for research in the field of allied activities and their impact on educational attainments.

In short an effort has been made to bring out the relationship between Intelligence, Achievement and participation in Allied activities, The present study ascribes the nucleus for further investigation.

Details of The Tables used

Table No.	Particulars.
1.	Showing Academic Achievements of the students
2.	Showing classwise distribution of students.
3.	Showing Different Allied Activities In The Higher Secondary Schools of Bhopal.
4.	Showing Relationship between student's Level of Intelligence and their participation in Allied Activities.
5	Showing Relationship Between Student's Achievement And Their Participation inf Allied Activities.
6	Showing Relationship Between High Achieving Students And Their participation In Allied Academic Activities.
7	Showing Relationship Between High Achieving Students And Their participation In Allied Activities Promoting Aesthetic Sense.
8	Showing Relationship Between High Achieving Students And Their Participation In Physical And Recreational Activities.
9	Showing Relationship Between Average Achieving Students And Their Participation In Allied Academic Activities.
10	Showing Relationship Between Average Achieving Students And Their Participation In Allied Activities Promoting Aesthetic Sense.
11.	Showing Relationship Between Average Achieving Students And Their Participation In Physical And Recreational Activities.

Table No.	Particulars.
12.	Showing Relationship Between Low Achieving Students And Their Participation In Allied Academic Activities.
13.	Showing Relationship Between Low Achieving Students And Their Participation In Allied Activities Promoting Aesthetic Sense.
14	Showing Relationship Between Low Achieving Students And Their Participation In Physical And Recreational Activities.
15.	Showing Correlation Of Low Achievers In Three Types (A,B,C) Of Activities.

I N D E X

CHAPTER FIRST

THE STUDY

* Introduction To The Problem
* Allied Activities As An Ability
* Concepts Of Curricular And Allied Activities
* History And Development Of The Allied Activity Programme
* Problem Of The Present Study
* Justification Of The Problem
* Hypotheses
* Objectives And Limitations

Introduction to the Problem

"Civilisation always presents man with challenges in its advance towards higher forms of organisation. The primary question has to be asked:how can we adapt ourselves, as individuals, and part of the human species, to the new forms of living brought by the advance of civilization."

"This fundamental question [redacted] most important thinkers to ascertain how we can introduce into the educational systems of the world, those attitudes, methods and techniques, which can release in the child such energies, intelligence and imaginations, as may make him a resillient human being, in the face of the fears, hatreds and violences which have arisen through the confusion of aims ancilliary to the mobilisation of the highest knowledge of science for the annihilation of civilization in fact of the life itself."[1]

Dr. Mulk Raj Anand brings to light a new horizon and a vision for the educational thinkers and to the persons who are committed to education. This vision envisages a practical approach, very close to educational aspirations and throws a challenge for making the educational processes, more and more interesting, effective and child centred.

The core of learning is to kindle the innate potentialities and make learning true to life and experience.

The above views of Mulk Raj Anand holds true in all the societies irrespective of their social political or economic structure. In the broader prospective of their [redacted] aim of education, in all the societies, whether it believes in communism or has faith on socialistic pattern, whether it is a

1. Mulk Raj Anand: Art Education --- Journal of R.C.E.Bhopal Vol.1 No.7 pp 589

a pure democracy or it has a constitutional monarchy, is individual development. The aim of education is always related with the social progress.

It brings us to a more relevant point -- to what extent the system of education in India is in tune with the social order, what opportunities do our schools provide to the children for their free expression and harmonious development? Once an American critic was asked to express his views, on school system in India, he remarked "when the child goes to the school, he is ignorant but curious and when he comes out of it, he is still ignorant but no more curious." But for the persons who are committed to teaching profession it has got a different meaning. It will be better, not to indulge in this controversy because the topic itself is open for extensive investigation and constitutes, the subject matter for a new project. At the same time the statement of the American critic can not be ruled out altogether. It is because of two fundamental reasons:

(1) the significance of the allied activities is not crystal clear in the minds of the educational policy makers and

(2) financially the schools are not on a sound footing.

Allied activities may cause some extra financial burden. A well planned and organised allied activities programme in the school certainly needs more expenditure than a school having no such activities.

Allied Activities as an ability

The psychologist E.L. Thorndike defines learning in terms of three abilities.

(1) The ability to engage in higher reasoning.

(2) The ability to engage in manual manipulation and

(3) The ability to engage in social intercourse.

The first ability demands the familiarity with tools. The second one requires skill in the use of one's hands whether such manual activity be 'fixing things around the house' building and stalling book cases or kitchen cub-boards, or the delegate hair lines precision necessary for skilled surgery or fine tool making. The third ability i.e. the ability to engage in social inter-course is more important for our study i.e. allied activities. The process of inter-course is one of the living with, working with, and getting along with people — the process of joining with fellow-men in the exchange, modification and acceptance of ideas towards productive work and enjoyable and satisfying living. Keeping in view of the above concept of learning, many of the major and detailed objectives of the school programme may be listed viz. Debate, Drama, Games etc.

Lack of proper weightage to co-curricular activities was not limited only to our country. In America for many years the functions of the school were unfortunately, centred largely on the ability to engage in higher reasoning. The ability to engage in social-inter-course was left to be 'picked up' while in school or acquired in adult life in the 'school of experiences'.

It is an undisputable fact that experience has been and shall ever be a major arena for all learning. That is why there is a movement going on in the recent years in the progressive countries of the world, to have a suitable place for a well planned and organised programme of a co-curricular activities in the schools. It is now recognised by both ' educators ' and 'noneducators' and that opportunity to develop manual and social skills must be provided in schools and that such opportunity must be budgeted, planned and administered in the same way as is done for the'higher reasoning programme'. No doubt, that this programmed should be made foundation of a school offering, yet a fine

super structure of the total school programme should be made by the help of those activities which assist 'higher reasoning activities'.

The great master mind John Dewey also recognised the part ~~mk~~ played by the school, in the process of social development of the child. Dewey is very clear when he says that 'the education is a process of living through a continuous reconstruction of experiences. It is the development of all those capacities in the individual which will enable him to control his environment and fulfil his possibilities. Those puts Dewey's views on the aims of education in slightly different way. He says that the aim of education according to pragmatist is to put the educant in a position where the child may develop values for himself. These values can only be developed in the school only when variety of experiences are being provided to the child. That is why the great pragmatist Dewey observed that the "school is a miniature of society" or it is a "mirror of society". In other words if one wants to read the nature of a particular society, he can have a fairly good idea by studying the programme of the institutions, providing education to the young ones in that particular community. These different experiences can be given through different activities apart from the cognitive ones.

The purpose of the Dewey's educational system, as the great educator Butler puts, is to give the learner "experience in effective experiencing." Since our experiences are always changing, they are being mended and re-constructed, so education is essentially the "growing, changing and revising experiences."

Dewey thought of two essential factors in the educational process — (i) Individual factors and (ii) Social factor. Under the former he has included the psychological insight into the child's capacities, interests and habits. In one word all education is to be based upon the innate tendencies of the

child, which are only mechanical forces and can have their full play and can develop a real character only as they are brought into existences in social situation.

To sum up the process of education is to be based on the innate capacities and instincts, and they are to be brought into the exercise in the social environment. True education comes through the stimulation of the child's powers by the demands of social situation in which he finds himself. The demand of the society changes from time to time and so the aims of the education

(Gone are the days when puritanical parents and spartan pedagogues looked up on games and dramas and the dutiful pupils who used to be beautiful book worms. No more remains the "All study and no play", attitude to make John a dull boy. The old conservative attitude of making a child 'master mind" has no room in the present day education programme. There has been a significant change in our attitude to education by way of recognising the role of co-curricular activities in shaping and reshaping of young minds, it means a step towards totality of experiences.)

In the present day atmosphere we should not think of a school in the absence of the co-curricular activities. This brings us to the present problem do these Co-curricular activities really help the mental development of the child ? Could we not realise the aims of the education without assigning any place to such activities in the total school schedule ? What is the relationship between the academic and non-academic activities of the school ?

The Problem of the Study

An attempt has been made in the present study to have a crystal clear idea about the relationship between 'the ability to engage in higher reason-

ing and the ability to engage in social inter-course.

In the forogoing pages two words have occured very frequently Curricular or academic activities and Co-curricular of Allied activities. Before we take up to work out present attempt in details, it will not be out of place to have a fair idea of these two concepts.

Concepts of Curricular and Allied activity

The curricular activities are concerned with the curriculum that is to say the activities which are required to give certain pre-determined subject matter of a particular discipline to a child at a particular stage. The word curriculum has been differently used by different writers. In olden times this word had altogether a different connotation as compared to the present concept. Curriculum was thought to be as a mere synonims of courses of study, it was because of the fact of its Latin origin meaning a 'Race -Course'. An eminent scholar Bent defines curriculum as the content of study made accor'ing to the needs of the child. Cunninghum has given more ornamentation to the definition. According to him the curriculum is a tool in the hands of the artist 'TEACHER' to mould his material 'CHILD' according to his ideals in his studio 'SCHOOL', Later on it was regarded as courses offered including compulsory and elective subjects, to achieve educational goals. There was a set of scholars who viewed curriculum as 'subject matter content': The present day educationists conceive curriculum as : all the experiences of learner under the direction and supervision of the school. In other words curriculum is planned experiences which is organised and guided by the school. As such the present day curriculum is not only class-room experiences but also the extra-class-activities, the planned school services such as library service, health service, field trips into the community school assemblies.

To MUNROE " the curriculum embodied all the experiences which are utilised by the school to attain the aim of education". Prof. Sharp writes--"curriculum consists of all educative experiences under the conscious guidance of school. Many of the most variable experiences in modern schools result from the pursuit some thing different from what was often considered the programme of studies of yesterday.[1] In brief the old view of curriculum as " a body of subject matter be mastered by the pupils", has been replaced by the recent concepts, the totality of the experiences. This idea finds a strong support by the Secondary Education Commission appointed in the year 1952. According to its report "---------- curriculum ---- does not mean only the academic subjects, traditionally taught in the school, but it includes tatality of experiences, that pupil receives through the many fold activities that go on in the school, in the class-room, library, laboratory, workshop, playground, in the numerous informal contest between the teacher and taught.[2]

Referring to the present state of Indian School Curriculum the Education Commission makes the following comments:-

Against the background of the striking curricular developments that are taking place abroad, the school curriculum in India will be found to be very narrowly conceived and largely out of date. Education is a three fold process of imparting knowledge, developing skills and inculcating proper interest, attitudes and values. Our schools are mostly concerned with the first part of the process ---- imparting of knowledge, -- and carry out even

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1. Students activities in Secondary Schools -- Johnston & France pp.6

2. Report on Secondary Education Commission. 1952-53. pp 80

this in an unsatisfactory way. The curriculum places a primum on bookish knowledge and rote learning makes inadequate provision for practical activities and experiences'————————"[1]. Thus the latest commission on education also feels the urgent necessicity of including those experiences and activities in the total school programme which may provide a large scope for developing skills, inculcating proper interest, attitudes, and values. Only well knitted programme of allied activities can face this challenge.

B ALLIED ACTIVITIES

In the by gone days, when the significance of the co-curricular activities was not properly evaluated, The word 'Extra-curricular activities' was used to denote those functions and programmes of the school schedule which were not a part of the curriculum, but were leisure time engagement for the children. These activities have nothing to do with the development of the personality of the child. That is why they were designated as 'Extra'. But as pointed out by Kilzer, Stephenson and Nordberg — the term 'extra-curricular-activities is both in-accurate and undesirable, but it is often used for no better reason than that people generally understand its meaning.[2] It has unfortunate implication because 'Extra' implies that the activities are extraneous to the real purposes of the school. Fortunately, significant progress is now being made in the direction of better terminology, the word 'extra' has been replaced by'co -curricular', when we say the aim of education is multi dimension personality growth of the child, it implies mental, physical and

1. Report of Education Commission — Chap. VIII, P.184.

2. Allied activities in the Secondary Schools by Kilzer Stephenson and Nordberg. p, 2

emotional development. For mental development we have class room teaching, for physical and emotional development we have a long list of associated activities. The modern educationists, after realising the real significance of such activities have given a more suitable and convincing terminology to 'extra class room activities' the 'co-curricular activity'. Some other terms for these co-curricular activities are also used by the educationists such as 'Allied activities' 'School activities' 'Extra class-activities' Extra Instructional activities' 'Semi Curricular activities' and so on.

Now for the present work the choice was to be made between two terms 'Co-curricular activities' and 'Allied activities', the latter seems to be more reasonable and justified because allied activities do not have curricular colouring, but at the same time they are necessary to make the child a disciplined citizen of an independent democratic country. This term is becoming increasingly popular and in the U.S.A. There are some colleges offering regular courses bearing that name.

The day is not too far when we will have a more pointed expression for the allied activity, The tendency has already started. In several public and progressive schools those activities are not detectedby the teachers rather they emerged from the inter-action between students themselves. They by themsel es plan and carry out the school programme. There is a Cry going on for teacher pupil planning in curriculum. Now for such activities where every thing is done by the pupil themselves — preparing a play ground, marking the field, actual playings, preparing the stage, finding out a suitable drama to be staged, direction selection of the character, concluding address and thanks giving, a more scientific word " SELF ACTIVITY" may be used. Self activity

is a process by which the individual realises his own nature, by which he builds his own world. If we want that the present educational system should be more scientific, more fruitful and more attractive, then the entire process of education should be based on 'self-activity'. Not only in non-academic domain, the idea of the self-activity is gaining ground. The recent innovations of 'team teaching' in the field of methodology is nothing but making the best use of the self activity of the students under the conscious guidance of the subject teachers concerned.

History and Development of the Allied Activity Programme:-

For promoting the mental faculty of the child through allied activities, the school can have a number of associations such as Science associations, or Science Club, literary associations, etc, with the duty of organising debates, lectures, creative writing competitions, social gatherings. The work of school publications can also be taken by those associations. Today more than five thousand good school papers, three thousand year books, one thousand magazines are being published in the high schools of U.S.A. Ten million dollars are being spent on them and Ten thousand teachers act as advisers for them.[1]

In India too there are schools which are producing children news papers, children magazines, wall magazines, some of these schools have their own small press, in which composing and printing is taken as a hobby.[2]

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1. Allied Activities in Secondary Schools — Kilzer, Stephenson & Nordberg P. 217.

2. Demonstration Multipurpose School Ajmer & Bhopal are having their own press.

Long Long ago Greek Philospher thought of 'A healthy mind in a healthy body'. For healthy body, participation in games and sports is required,which should form a part of the total school programme. The physical growth is the starting point of sports and games that take place in a high or higher secondary school. In the recent years the physical education has been made a compulsory subject up to the higher secondary level. Apart from the physical development the school sports develop in the child such virtues as self reliance, emotional growth, social growth, good sportsmanship and leadership. These aims can only be realised if the school has a well equipped games department under a very efficient teacher, with a variety of function such as the organisation of league matches, friendly matches, tournaments, coaching camps and red cross camps etc. Here mention may be made of the atheletic programme also, which forms a vital part of the allied activities in Indian schools.Though in the begining the significance of the atheletic programme was not duly recognised but today it has become a main concern of the educationist. A large sum of rupees is being spent for financing the school games department.

Now we come to the development of the aesthetic sense of the child. This duty is very efficiently discharged by the dramatic societies, music associations, and dance clubs. These associations help in developing the feeling of self confidence, responsibility, self discipline, and punctuality in life. A well chalked out allied activity programme can realise the above objectives, in best possible way.

If we look into the past history of a man as a civilised being, we find that many of the above enumerated activities had a place in his life. One could have a glance of these activities in the Persian, Spartan, Athenian

And Roman schools. In India, in ancient times debate and discussions played an important part in the literary training of the pupil. In the RIG VEDA, reference to वाद-सभा is found. Dr. A.S. Altekar writes"learned debates were constantly held in schools and colleges and students were called upon to defend their own propositions and attack those of their opposites".[1]

In mediaval ages one could see Indian schools, humming with different allied activities. During the English regime some novel activities were introduced in the schools, western music was made one of the subjects of study. The Secondary Commission 1952 expresses its keen desire to see our schools humming with activities, in which each student should be able to discover himself.[2] In one of the publications of the Govt. of India, a suggestion has been made to the following effect. "In order to develop and explore the interest of pupils in senior classes at any rate a programme of varied activities integrated with the curriculum should be provided in the school. The activities should be organised in relation to diversified courses —— activities may be built around the interest and hobbies of the students."[3]

Mahatma's basic school is full of allied activities. In these schools curricular activities are coordinated by allied activities, because of the two objectives of these schools.

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1. Education in Ancient India By A.S.Altekar. p.169.
2. The Secondary Education Commission. 1952-53, p.169
3. Guidance in Multipurpose Schools. p. 6

(1) Earning while learning through productive crafts.

(2) Learning through direct experience.

Different commissions which were appointed from time to time to review the position of the secondary education in India were very conscious as regards to the importance of those allied activities. The Secondary Education Commission 1952-53 makes the recommendations: " special importance should be given to group games and other co-curricular activities and their educational possibilities should be fully explored. They should henceforth form an integral part of education imparted in the school and all teachers should devote a definite time to such activities."[1]

Similarly the C.E.I. 1962 makes the following provision —"The ministry of education should initiate immediate action to plan a minimum programme of recreational and social activities for young people in the age group 14 years - 25 years to cater for those in schools and colleges and also for those who have left schools."[2]

The recently appointed Kothari Commission, a-part from suggesting a curriculum of studies also makes a reference to such activities which are not directly related to the courses taught, but, which necessarily refined the personality of the school going children. Under such activities the commission has mentioned the following :-

1. Work experiences
2. Social services
3. Physical education.

1. Secondary Education Commission 1952- VIII 3-6.

2. C.E.I. -1962 Item No.13 -90.

4. Moral training and cultivation of ethical virtues.

5. Creative activities.

6. Co-curricular activies, which will give a proper shape to the self expression.[1]

In the Plan & Courses designed by the N.C.E.R.T. for higher secondary schools, the co-curricular activity programme has duly been emphasised. Apart from the co-ordinator of instruction and curriculum and the guidance there is a provision for a co-ordinator of co-curricular activities, whose duties are given as follows:-

" This officer shall be responsible for co-ordinating all co-curricular and extra-moral activities including students council activities; for preparing the schedule of activities and providing hobbies related to curricular streams; for liason between the staff and the Head Master and for supervising pupil personnel services including admissions records and health services.[2]

The Problem of the Present Study

An attempt has been made in the present study to have a clear idea about the relationship between the ability to engage in higher reasoning and the ability to engage in social inter-course.

The problem is : To Study The Relationship Between Intelligence, Academic Attainment And Participation In Allied Activities.

Justification of the Problem

" Of all the work that is done or that can be done for our country the greatest is that of educating the body, the mind and above all the character,

1. Report of the Education Commission. 1964-66, Chap.VIII, pp. 183,223.

2. Plan and Courses of Study--published by N.C.E.R.T. - p.21.

giving spiritual and moral training to those who in a few years are themselves to decide the destinies of the nation."

P.Rousvalt.

Before we venture to establish a relationship between the academic and allied activities, let us examine the aims and objectives which the latter fulfill. Several lists of objectives can be found in educational periodicals, journals, magazines and text books, dealing with this significant aspect of the school's offerings.

Mr.Mc-known's classification of the objectives of allied activities is very scientific. He gives the following objectives.

1. To capitalise for educational profit, important fundamental drives.
2. To prepare the pupil for active life in democracy.
3. To make the pupil increasingly self directive.
4. To teach social cooperation.
5. To increase the interest of the pupil in the school.
6. To develop the school moral.
7. To foster sentiments of law and order.
8. To discover and develop special qualities and abilities.[1]

Another appropriate classification of the objectives, has been given by Schorling and H.F. Batchelder.[2] These two scholars, ppine — the philosophical argument for co-curricular activities in the high ~~mental~~ school is precisely

1. Extra Curricular activities — published by Macmillan & Co. 1952. pp 13-16.
2. Student Teaching in Secondary Schools by Schorling and Batchelder pp.271-274

the same as that under lying the whole educational programme in this area we also strive to minister to the needs of the individual and of the society. In brief each activity should fulfil the pupil need and justify its inclusion in the programme by contributing by same general-social objevtice of the education. Among the social and psychological needs that an extra curricular programme may be expected to meet the following.

1. To develop the whole child.

2. To develop the good citizenship.

3. To develop worthy recreational interest.

According to Dr. Hanna the objectives of a Co-curricular programme is to channel the non class energies of the students into wholesome group activities. The same authority points out that the class room is generally considered to be the back-bone of the educational process, educators, however, are aware that things earned outside the class room frequently are more permanent and exert, a far better influence on the students attitudes, work habit and values then do the more traditional class room learning. The co-curricular programme capitalize on the natural desire of the students to gain enjoyment for participating in group activity. The purpose of such a programme is to assist the students in finding satisfaction through activity then in themselves are helpful in developing them into more useful individual and members of society. *1

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*1 Journal of Regional College of Education, Bhopal
Co-curricular Number, April '68, pp. 508, 509.

According to E.L. Julson the significance of co-curricular activity may be summed up in the following points.

1. They should help in meeting students need.
2. They should prepare students for participation in democratic life.
3. They should teach social cooperation by providing experiences in group living.
4. They develop students higher standards of ethics, discipline, sportsmanship, school and community spirit.
5. They make students not only aware of their individual rights but also of their social responsibility.
6. They prepare students for better leadership and fellowship.
7. They prepare more worthy home membership.
8. They prepare for more better aesthetic and recreational participation.
9. They prepare students for highest type of citizenship in a democracy.[1]

To F. Morgan the significance of the co-curricular activities is due to the following facts:-

1. They develop leadership potential.
2. They promote social activities.
3. They promote cultural activities.
4. They promote literary activities.
5. They promote athelitic activities.
6. They help in the development of better understanding of the

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1. Journal of Regional College of Education, Bhopal. Co-curricular number April'68 pp. 513-14.

problems beliefs, habits, and characteristics of fellow students and thereby overcome individual prejudices.

7. They generate a sense of responsibility to self and society.

8. They develop the personality of the students to make them a better citizen.[1]

From the above statements it has become quite clear that for a school co-curricular activities are essential. A well chalked out programme for such activities will make the aims and objectives of the education fully realized. The task becomes easier when the educators have agreed among themselves that co-curricular activities develop personality and character, fill up the leisure time, make the student self directive and offer opportunity to explore one's interest.

Viewed in Indian context the condition of the co-curricular activity schedule is far from satisfaction. Kapshe[2] after studying the problem made the following observations:-

"The existing conditions of co-curricular activities in the schools are far from satisfaction. Only games and sports are popular activities. Parents and students feel that these activities do not help in academic work."

Mr. Rao[3] made an enquiry into the voluntary activities of about 960 students reading VIII to X classes of Bombay city. His conclusion were that

1. Journal of Regional College of Education, Bhopal. Co-curricular Number, April '68 p.520.

2. Kapshe K.; Co-curricular activities in Modern Secondary Schools of Western M.P. with special reference to Indore Distt.

3. Rao P.V. - An Enquiry into voluntary activities of Secondary Schools Boys in Bombay.

only 32% students were scouts and 10% were the members of other organisations such as the Seva Dal, and Students Union.43% students reported that they had acted on stage.

Mr. Gupta[1] made an interesting study of the physical education programme of the 75 Secondary Schools of Bhopal Division. From his study he concluded that not a single institution maintained an individual students record either of his physical fitness or of field events. There was no graded syllabus for physical training, the members of staff are disinterested in physical training activities. The atmosphere in schools was not conducive to such activity.

In view of the importance of the allied activities, it would appear that very little research has been done on these. There are numbers of problems pertaining to this aspect of school life, which deserve to be explored and studied intensively. With the same view an attempt has been made in the present study to establish the relationship between the level of intelligence academic attainment and the allied activities.

Formation of Hypothesis:-

Having arrived at a tentative conclusion that the Intelligence and achievement have something to do with the allied activities, to formulate certain hypothesis, to confirm or reject according to the evidence The scientific study implies formation of hypothesis based on which investigation is taken forward. When one has to proceed towards some destination path of which is not known, the obvious course of action is to form an idea,

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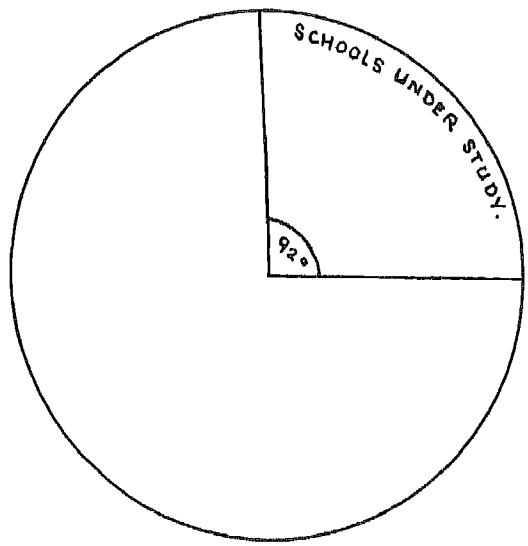
Gupta- An enquiry into the working of physical education and health services for Boys in Secondary Schools of Bhopal Division.

however, vague it may be, about the direction in which the place is likely to be located. There may be mistakes at times but the effort is continuous and the past mistakes are overcome the goal is destined to be achieved, hence to proceed scientifically the present study has the following hypothesis as its base which the investigator has taken up for verification:-

1. There is a positive corelation between allied activity and intelligence.
2. There is a positive co-relation between the allied activities and achievement in school subject.
3. More intellectually challenging the activity, more is the participation of high achievers.
4. Average achievers have equally well participation in challenging activities.
5. Lower achievers have low participation in allied activities.

Graph Showing the institutions studied.



School Responsed --- 11 ---
Selected for study -- 6 ---
Total no of school ---23---

OBJECTIVES AND LIMITATIONS OF THE STUDY.

The study is being made with the following objectives:-

(i) To study the relationship between:

(a) intelligence and participation in allied activities,

(b) academic attainment and participation in allied activities

(ii) To bring out the position of schools in view of allied activities.

(iii) To study the participation in allied activities as run in the Demonstration School, in view of the relationship between intelligence, academic attainment and participation in allied activities.

SCOPE AND LIMITATIONS OF THE PROBLEM

The problem in hand, deserves of course, both intensive and extensive field sfor investigation. But due to the short period of time and with meagre resources the scope of study is limited as pointed out below:-

1. The study is confined to the schools in the city of Bhopal i.e. urban area only.

2. This being an intensive study, only six schools have been taken in to account for our purpose, they were

(a) Arya Kanya Vidyalaya, Bhopal.

(b) Kendriya Vidyalaya, Bhopal.

(c) Sultania Girls Junior College, Bhopal.

(d) H.E.L. Junior College, Bhopal.

(e) Maharana Pratap Junior College, Bhopal.

(f) Demonstration School, Bhopal.

Out of those six schools, Two are purely girls schools, Three are mixed in nature and one is pure boys.

The above schools were included because of the fact that they conduct am almost all the activities, which have been included in the present investigation.

3. The total population selected is 305 students.

4. The study is confined to the growth age 14+ to 17+

5. The classes included are IX, X and XI.

6. Out of a number of activities only eleven have been taken for study as they find place in the majority of schools.

7. Out of the total number of six schools included, five were investigated extensively whereas the Demonstration School has been taken for the purpose of intensive investigation.

8 The total population included for the above intensive study is 75, out of which 62 are Boys and 13 are girls.

CHAPTER SECOND

Methodology And Plan Of The Work

* The Sample

* Procedures And Techniques

Chapter No.II

Methodology and Plan of the Work

The application of scientific methods to social research is based on certain basic assumptions. It has to be taken that there exists a cause and effect relationship in various social activities. These causes always produce similar results and, therefore, if they are known, they can be used effectively in checking the errors resulting from them.

Another assumption is that various social activities do not occur in haphazard random way. There is some system or some trend behind them. If this system or trend is located, it is possible to predict the future course of social phenomenon.

The study has to be objective. It is also assumed that a representative sample may be drawn and the deductions from the study of the sample may be made applicable to the whole group. Human society even if it is classified in group is very vast and study of each and every individual unit is practically impossible.

The social researcher has therefore, to start hisstudy under these basic assumptions.

Design of Sample

One of the most important problem in social research is the problem of 'sampling'. Survey may be conducted either by census method or by 'sampling method.

When the population is contacted for study the method is known as the 'census method', It is rarely used because of the huge size of population. If we would have attempted to adopt'census method' the 50% population would have been in large number. This method is most suitable in

cases where a typical or a specialised type of population is needed, for study.

As against the 'Census' method when a small group is taken as a representative of the whole, the study is called 'sampling study', and the group actually selected as sampling, although social phenomenon is so complex in nature, that no two things appear alike, keener study has disclosed that there is a basic homogenity amidst diversity. There may be certain traits, aspects, etc. in which most of the population has a fundamental similarity. It is on this assumption that samples are taken and in almost all the cases there have been no errors in reaching the correct conclusion, provided the selection was representative.

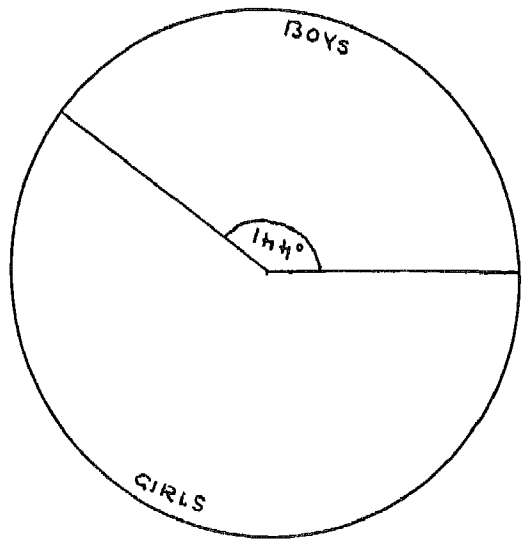
The ~~xxx~~ elements of representation can be enforced if we select sample from a mass on purely random basis, thus enabling each unit to be represented.

Sampling studies are becoming very popular because of the drawbacks of the census method described earlier. Besides this, the method has its own advantages in respect of time, money, accuracy and conveniences.

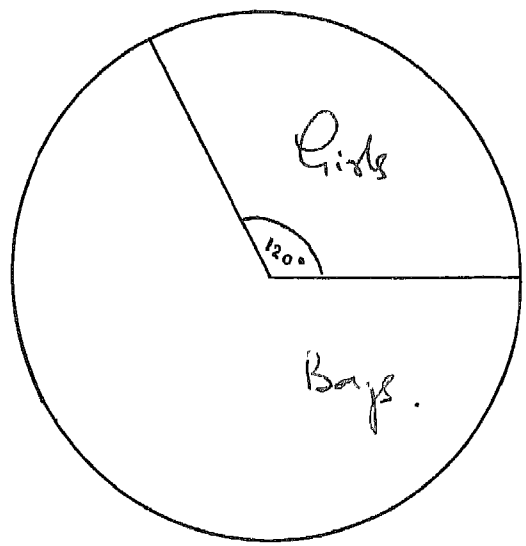
Sample of the Present Study

For our purpose we had selected six institutions of Bhopal city. A sample consisting of 305 students both boys and girls were taken. The institutions included were:-

1. Arya Kanya Junior College, Bhopal — Girls.
2. Sultania Girls Junior College, Bhopal — Girls.
3. M.M.L. Junior College, Bhopal — Co-educational.
4. Maharana Pratap Junior College, Bhopal — ~~Co~~-educational. (Boys)
5. Central School, Bhopal — Co-educational.
6. Demonstration School, Bhopal — Co-educational.



Showing the population of the Boys + Girls under study.



Showing the population of the Boys and Girls in the Demonstration School Bhopal 2

Of the above institutions three were co-educational, two girls and one boys. The population of boys was 113, whereas that of girls, it was 106.

For the intensive study of Demonstration Multipurpose School, Bhopal a sample of 75 students was taken, out of which 62 were boys and 13 were girls falling under three groups according to their academic attainment.

Table No. 1 Showing academic achievements of the students.

S.No.	Division	No. of students	percentage
1.	1st. Division (60% and above)	10	13.7
2.	2nd Division (45% to 59%)	24	32.8
3.	3rd Division (Below 45%)	39	53.5

The above sample consists of three different classes and the number students in each class was not equal. The table No.2 shows class wise distribution of students.

Table No. 2

Showing classwise distribution of students.

S.No.	Class	Boys	Girls	Total
1.	IX	20	7	27
2	X	26	1	27
3	XI	16	5	21
	Total	62	13	75

Reliability of the Sample:-

From the above facts it will be seen that the sample selected fulfils the following requirements:-

(a) It is both representative and randomly selected. It is representative in the sense that the sample consists of such institutions like Central School, Demonstration School, Bhopal, the population of which comes from families of higher and upper middle classes. Whereas Maharana Pratap Junior College and Arya Kanya Vidyalaya, Bhopal caters for the lower class and lower middle class. Similarly the Sultania Girls Junior College, represents all the classes of society. One unique institution where the students of only Industrial area come for study has also been included, in our sample.

(b) The sample consists of both boys and girls well matched in their potentialities and attainments.

(c) The number taken up for this study is 305 and there are important studies/taken with the lesser number. According to 'PARTEN' " an optimum sample in a survey is one which fulfills the requirement of efficiency, representativeness, reliability and flexibility. The sample should be small enough to avoid un-necessary expenses, and large enough to avoid intolerable sampling error."

Thus it would be seen that the sample selected for the present study is representative.

Research Design

In this study we will stick to standardized tests and procedures for determining the relationship between Allied activities, intelligence alongwith academic achievement.

An effort was made to enquire through inquiry from the most prevelent co-curricular activities of the school. Having gathered this preliminary information from the institutions, we categorised those activities. Then we administered standardized Intelligence test for determining relationship between achievement and participation in allied activities.

In order to have a comprehensive study, the other aspect — students academic attainments, was also taken into consideration.

Having the data related to on Academic achievement, Intelligence and participation in allied activities, the results were derived and finally tested with the hypothesis.

Procedure and Technique of Investigation.

Enquiry form

Enquiry form is a device of securing the information regarding the point of investigation by using a form which the respondent fills. Such an form may be issued to the Head of the Institution to have an idea of the state of affairs in that particular institution in regards to the enquiry which researcher is going to make.

An enquiry form was issued to the Principals of 23 higher secondary schools of Bhopal to have a fair idea of the nature of the allied activities which occur in their schools.

An exhaustive list of the allied activities was drawn after consulting books, magazines, personal interview with the teachers and the administrators.

CATEGORY These activities were grouped as under:-

A 1. Allied Academic Activities which included debate, creative writing, recitation, story telling, extempore debate word making competition etc.

B 2. Allied activities promoting aesthetic sense. This category included drama, dance, music, shadow play, fancy dress, observation of important days and events.

C 3. Physical and Recreational activities under which games, sports, gymnastic, community service, scouting, drill etc. were included.

The enquiry forms were first sent by mail but the response was very poor and as such the investigator had to go personally to secure these forms. As many as 20 forms were issued out of which 11 forms could be procured. We could receive about 50% enquiry forms because of so many reasons. In some institutions the Principal was not available, and the next man to him was not very keen in giving information. Not only this some of the Principals had lost the forms.

After collecting the necessary data concerning the present investigation it was found that only eight schools had the activities, of our concern in their programmes.

Showing school wise allied activities

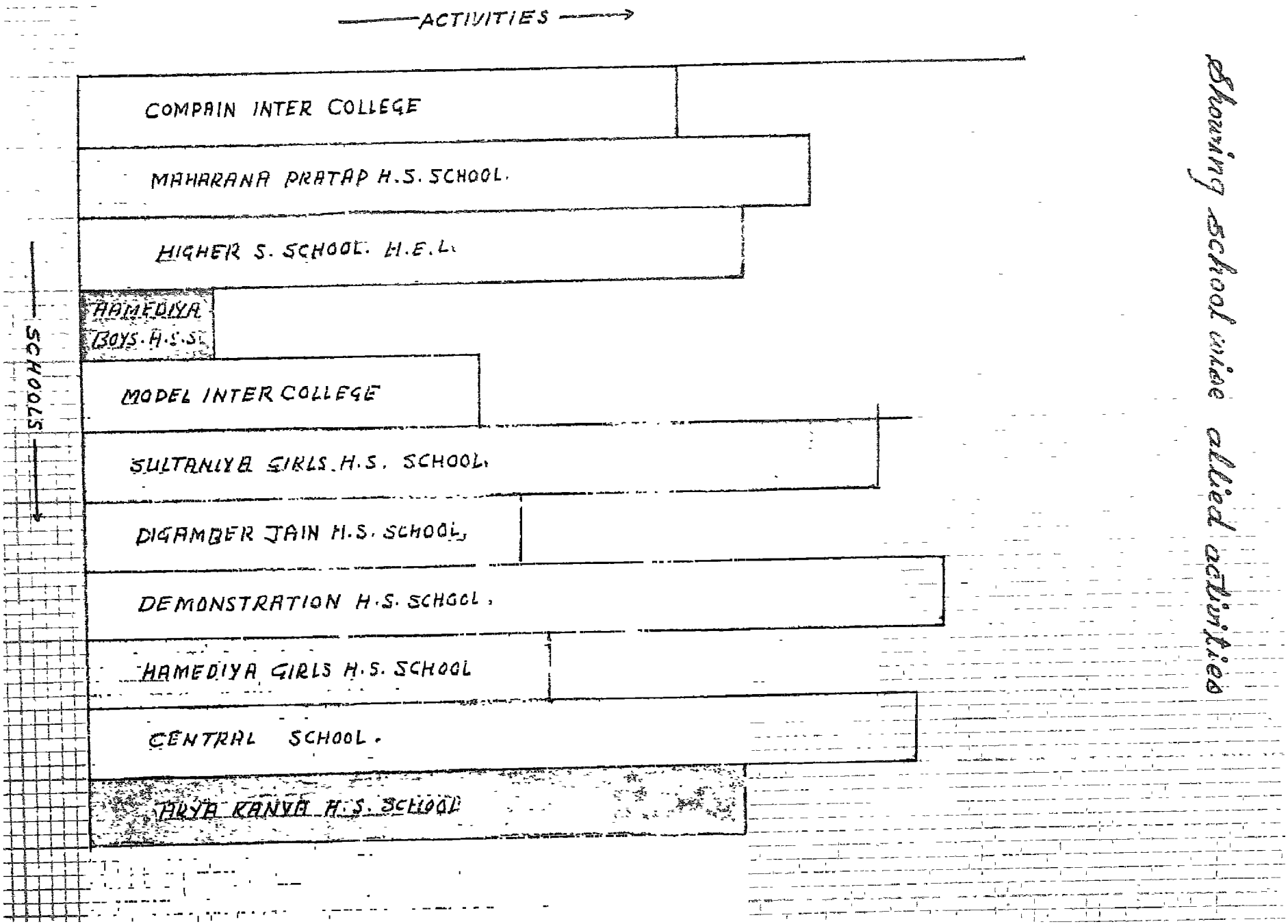


Table-3 Table showing different allied activities in the Higher Secondary Schools of Bhopal.

S.No.	Name of the School	No. of allied academic activities	No. of aesthatic activities	Physical & recreational activities.	Total
1.	Campion Junior College.	4	5	6	15
2.	Maharana Pratap H.S.S.	5	6	6	17
3.	H.E.L.Junior College	6	5	5	16
4	Hamidia Boys Junior College.	1	N.A.	N.A.	1
5	Model Junior College	3	3	2	8
6	Sultania Girls Junior College.	5	7	6	18
7	Digamber Jain H.S.S.	3	2	2	7
8	Demonstration School.	6	7	7	20
9	Hamidia Girls	3	3	4	10
10	Central School	6	6	7	19
11	Arya Kanya	5	5	6	16

Rating Scale:

The psychological measurement methods that depend upon human judgement and rating scale procedures, exceed them all for popularity and use. Although, generally speaking rating methods belong logically under the heading of successive intervals. Their greatest popularity is in connection with the fields of applied psychology but they are also used widely in many types of basic research. They are used in the evaluation of individuals, their reactions and their products.

"Rating scale is a device that rates social values, occupational efficiency, group status and the like in certain specified areas".[1] It reflects the impression the subject has made upon the person, who do the rating.

Development of the scale by Likert Technique

For the present study we developed rating scales for each of the allied activities, specimen copies of each of the scale are given in appendix "A". Here we may point out that we could not use Rating Scales developed by the Board of Secondary Education, Rajasthan Ajmer, due to the fact that all those activities are not being held in the schools of Bhopal City. For the information of the readers, the rating scales of Board of Secondary Education, Ajmer was given to the teachers to rate students in various allied activities, but the observation was that they failed to give correct readings. Notonly this some of the teachers failed to follow them.

In preparing our rating scale we used 'Likert's xx technique' known as technique of 'summated ratings'. The scores of this technique are very

1. Freeman F.S., Theory and Practice of Psychological Testing. p

similar to those obtained by 'Thurston method', since the Likert type scale takes much less time to construct. We used this method. It offers an interesting possibility of an opinion research.

The first step which we followed in constructing the Likert's type scale was collecting a number of statements about allied activities.The correctness of the statement is not so important if they express opinions held by a substantial number of people.

We took a five point scale using the categories namely (1) A.(2) B (3) C (4) D and (5) E and the weightage to each point was 5,4,3,2 and 1 respectively. We did not use 'Zero' in rating activities because most of investigators have discarded it. The obvious reason for this is that they tend to suggest a break in the scale, and thus destroy what should be the continuity. In social sciences where we judge the behaviour of an individual, the participation of the individual cannot be nil.

This was given to a number of principals and teachers requesting them to check students participation they think correct.

The score of allied activities was found out by adding the weights of all the items.

Then the validity of the scale was calculated by taking scores of highest 24 students and lowest 24 students.

Validity of the scale

In any research programme it is necessary to use a 'valid tool' because results of research depend upon its use. Before using rating scale we determined the validity of the tool by applying the "Edward's method of finding validity". In our case the validity was determined on the basis of the scores obtained by 24 highest and 24 lowest scoring students. It was significant at 0.10 level.

Intelligence Test

Intelligence tests can be divided into two main classes according to the extent to which they employ language: They are verbal and non-verbal. But some of the authors have added one more class called non-linguistic tests of intelligence which make no use of language, not even given direction to the subject. All directions are given by means of charts etc. There are not very many tests in this class and they do not differ much from the non-verbal tests. Non-linguistic tests are used for those who do not understand the language of the examiner and for the deaf.

The verbal and non-verbal tests of intelligence are also respectively called the paper and pencil tests and the performance test. The former can further be divided into two types (i) the individual and (ii) the group.

The individual tests of intelligence are administered to one person at a time and are oral while the group tests of intelligence are given to a number of persons at a time and are written. Verbal tests require a good knowledge of language and also reading and writing skills otherwise they do not give a correct estimate of the intelligence. The great advantage of individual intelligence test is that they furnish the experts with concentrated material for observation.

In this study the group intelligence test has been used. With it, one can test a larger number of persons at the same time in a short period. Although being applicable to a large number of persons, in a short time, the test set up has to meet certain other requirements. It must not depend upon specific school information, since many of the examiners have had little formal schooling. It should be capable of measuring over a wide range of abilities so that it may be possible to measure all classes of students from the lowest to highest ability. It should be easily and objectively scored and

rated.

Most group tests — implicitly or explicitly are constructed on the principle that intelligence is a general capacity and that it should be measured by sampling a variety of mental activities. Inspection of the scale shows, therefore, they include in various combinations, such items as following directions, arithmetic problems,word meanings, analogies etc.

In most group scales the items of each type are placed together in separate sub-tests or parts, begining with the easiest and progressing by intervals — as nearly equal as may be achieved — to the most difficult.

It will be found, however, that items in a scale are arranged, at times in spiral omnibus fashion.; that is items of various types are presented in regular or irregular order, instead of being grouped separately in sub-tests.

Every group scale is standardized for specified range of ages or school grades. Thus the particular types of items used, and the levels of difficulty will depend upon the group for which the scale is intended.

On many group scales an individual score is first obtained in terms of the number of points earned— that is a raw score. For a table of norms this score is converted into a mental age from which an intelligence quotient is calculated. The manuals of some group scales also provide tables necessary to find an individual's percentile rank for his age or grade or for both.In Jalota's Test of Intelligence that we have used provides both the norms.

Group scales are scored more rigidly and more objectively than those individual scored.

Most ~~of the~~ group scales impose time limits for each of the several sub-tests or parts whether this fact makes a scale a test of speed of response, solely or largely, or whether this scale measures power level of

difficulty the individual is capable of reaching, is a question to which answers have been provided by experiment. 1

Jalota's Group Test of Intelligence.

Among different group tests of intelligence, available, we have selected Jalota's Intelligence Test for our study, because it has been standardized on a very large sample and many researches are based on this test.

Jalota's test of Intelligence is known as

. The test was given kon a selected sample of one thousand three hundred forty one school going students of VIII, IX, X and XI classes from various schools and Colleges at Banaras.The raw scores indicated that they were dealing with a normally distributed population.

The following items have been included in this test:-

(i) Vocabulary - similars.
(ii) Vocabulary- opposites.
(iii) Number Series.
(iv) Classifiaation.
( ) Best answers.
(vi) Inferences.
(vi) Analogies.

It was felt that best answers and inferences measure abilities worth a good deal of overlap; also that vocabulary similars and opposites have much in common, so ten items for each of them, and twenty each for the other three elements of number series, classification and analogies were selected.Two illustrative items were also selected for each element for demonstration purposes. One of them was presented as a solved example, and the other was to be solved by the tests before we started the test. Only twenty minutes

were al otted to the tests with one hundred items.

The reliability of the test is 938. The validity of the test results was found by correlating with the common criteria of school examination marks. These values ranged from +.50 to + .70. The centile norms for the classes VIII to XI as well as for the ages 13 to 16 years.

This test has been found useful by workers as far apart as Jabalpur, Patiala, Amritsar and Solan even as it is by research scholars at Lucknow and Allahabad. By now the test has been applied to over 18,000 school going students in some 70 studies and these reports have increased the confidence in it.

इन प्रश्नों के द्वारा हम साधारण मानसिक योग्यता की परीक्षा करना चाहते हैं । २० मिनट में आपको १०० प्रश्नों के उत्तर देने होंगे । इस परीक्षा के आरंभ होने से पहले, अभी दिये हुये सब प्रकार के प्रश्नों को और उनके उत्तर लिखने के तरीकों को समझा दिया जायगा । सभी प्रश्न साधारण भाषा में दिये हैं । प्रायः सभी प्रश्नों के कुछ संभव उत्तर भी दिये हुये हैं । उनमें से आपको केवल सबसे ठीक उत्तर को चुनना है, और उसकी संख्या उत्तर-पत्र पर लिखना है । प्रत्येक प्रश्न का उत्तर संख्या में देना है । अक्षरों में कुछ नहीं लिखना है । प्रत्येक प्रश्न का एक ही ठीक उत्तर है । अधिक नहीं है । सब प्रश्नों का उत्तर बहुत कम लोग दे सकते हैं । अतः आपको शीघ्रता से काम करना चाहिए और जल्दी से अधिक प्रश्नों का उत्तर देना चाहिये । अगर कोई प्रश्न आपको अधिक कठिन मालूम पड़े, तो उसे सोचने में अधिक समय नष्ट न कीजिये । उसे छोड़कर अगले प्रश्नों का उत्तर दीजिये । यदि अन्त में समय बचे, तो अपने उत्तरों को दोहरा लीजिये ।

आरम्भ करने की आज्ञा मिलने पर ही उत्तर लिखना आरम्भ कीजिये और जितनी शीघ्रता से हो, उत्तर दीजिये ।

After the expiry of the fixed time the booklets and answer sheets were collected. The students were allowed to leave test.

Academic Achievement Record

In order to collect the data of academic achievement, the final result of the students were taken into consideration. It was deemed proper because in the students the results of first terminal are not properly maintained and they cannot be considered for the present study. On enquiring into other details about the first terminal examinations it was found that teachers give marks on the basis of class work done and the variations occur due to lack of specific routine.

The final results were found quite specific and as such they were taken into consideration, and taken as their level of academic performance and achievement.

CHAPTER THIRD

Analysis And Statistical Treatment Of The Data

CHAPTER III

Analysis and Statistical Treatment of the Data.

According to Miller," Scientific method involves observation, inference, and verification data, the result of observation must be put into definite form and given coherent structure before the process of inference is possible."

Before the data was collected through testing and observation it was put in a definite form. No inference can be drawn from the raw data because it is in an most jumbled form. It is difficult even to realise the significance of the data. Two statistical processes are used to put this in some significant understandable form. They are known as classification and tabulation. Although a rough plan of classification and tabulation is kept in mind while preparing the enquiry form and rating scales, the final classification could be done only when the data was collected.

We have already described in detail the entire procedure of administration of enquiry forms, intelligence test, and rating scales. This chapter will therefore, deal with their analysis and statistical treatment. This is intended to make the data more meaningful.

The results obtained were studies under the following heads:-

1. Analysis was made of the data in terms of students,participation in allied activities and their level of intelligence for each male and female respondent.

2. Analysis of the data in terms of the Allied activities and the total achievement of students in school subjects.

3. Analysis of the data of 'Demonstration School' Bhopal was done

under the following categories:-

(a) In terms of high achievers i.e. those who secure more than 60% 60% marks and their participation in allied activities of "A" "B" and "C" categories as defined in the previous chapter.

(b) In terms of average achievers i.e. those who secure more than 45% but less than 60% marks and allied activities of 'A' 'B' and 'C' categories.

(c) In terms of low achievers who secure less than 45% marks and allied activities of 'A' 'B' and 'C' categories.

Analysis of the data was done in terms of co-relation to examine how for the different variables resemble each other.

A look in the Table 4 will reveal the correlation between intelligence has come 0.192 which is indifferent relationship. The first hypothesis has been accepted, and there is a positive correlation between the participation in allied activities and intelligence. The above correlation shows that there is a negligible correlation though slanting towards the positive side. This also rejects the notion that intelligent students are poor in allied activities.

On the basis of the derived results we may say that an intelligent boy may or may not be doing well in allied activities. Again a student who is active in allied activities may not possess superior intelligence. This interpretation is because of very low co-efficient of correlation between the two variables.

Table 4 showing the relationship between student's level of intelligence and their participation in allied activities.

Co-curricular activity score

Intelligence Test Score (Jalota's Test of Intelligence)	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50
80-89				1	5	5		
77-79	2	1	1	2	6	2	3	1
60-[illegible]	15	9	5	6	7	3	1	
50-59	14	17	11	16	8	4	2	
40-49	15	20	11	8	6	6	4	1
30-39	13	14	4	11	9	3	2	3
20-29	10	6	2	2	4	1		
10-19	5	2		2	3			

r=0.192

Table No. 5 Showing relationship between students achievements & their participation in Allied Activities.

Co-curricular activity scores.

Achievement scores	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50
83-90		1						
75-82	1	1	2		1			1
67-74		6	1		2		1	
59-66	2	2	2	6	4	2		
51-58	6	10	8	7	5	7	5	2
43-50	19	10	8	13	10	8	2	
35-42	12	12	10	7	9	8	3	
27-34	12	15	10	8	5	4		2
19-26	3	7	2	6	5		1	
11-18		3	1	1	2			

r = 0.112

The obvious inference that we can draw in the face of the evidence thus collected is that there is little or no correlation between the allied activities and achievement. Thus the hypothesis No.2 viz. there is a positive correlation between the allied activities and achievements in school subjects is accepted, though not conclusively. We can infer that allied activities do not contribute significantly towards achievement.

In order to examine the hypothesis no.3 to 5 we took smaller samples from the Demonstration School, attached to the Regional College of Education because it was found that a systematic plan related to allied activities was in operation there. Secondly, the complete record of the said school was available while in other institutions the same could not be found.

This population was further divided into three groups according to their divisions i.e.first divisioners, second divisioners and third divisioners. In this way the whole population was split in three small groups. Therefore, the statistical techniques applied earlier in the computation of correlation by product moment method could not be applied here. Now the choice left with us was to apply either the method of finding the correlation by original score or by rank method.

The calculation of 'r' by original scores is specially done when a calculating machine is available. In the absence of calculating machine the only choice left with us, was to use rank method of finding out correlation.

An easy, but not very reliable method of rank correlation is that known as the 'foot rule' method. A more difficult but better method is that symbolized by small Greek letter rho ' ρ '. That is why we used in all other further calculations ' ρ ' method of finding co-efficient of correlation .

Showing participation of the U.H.S. Students in the allied activities.

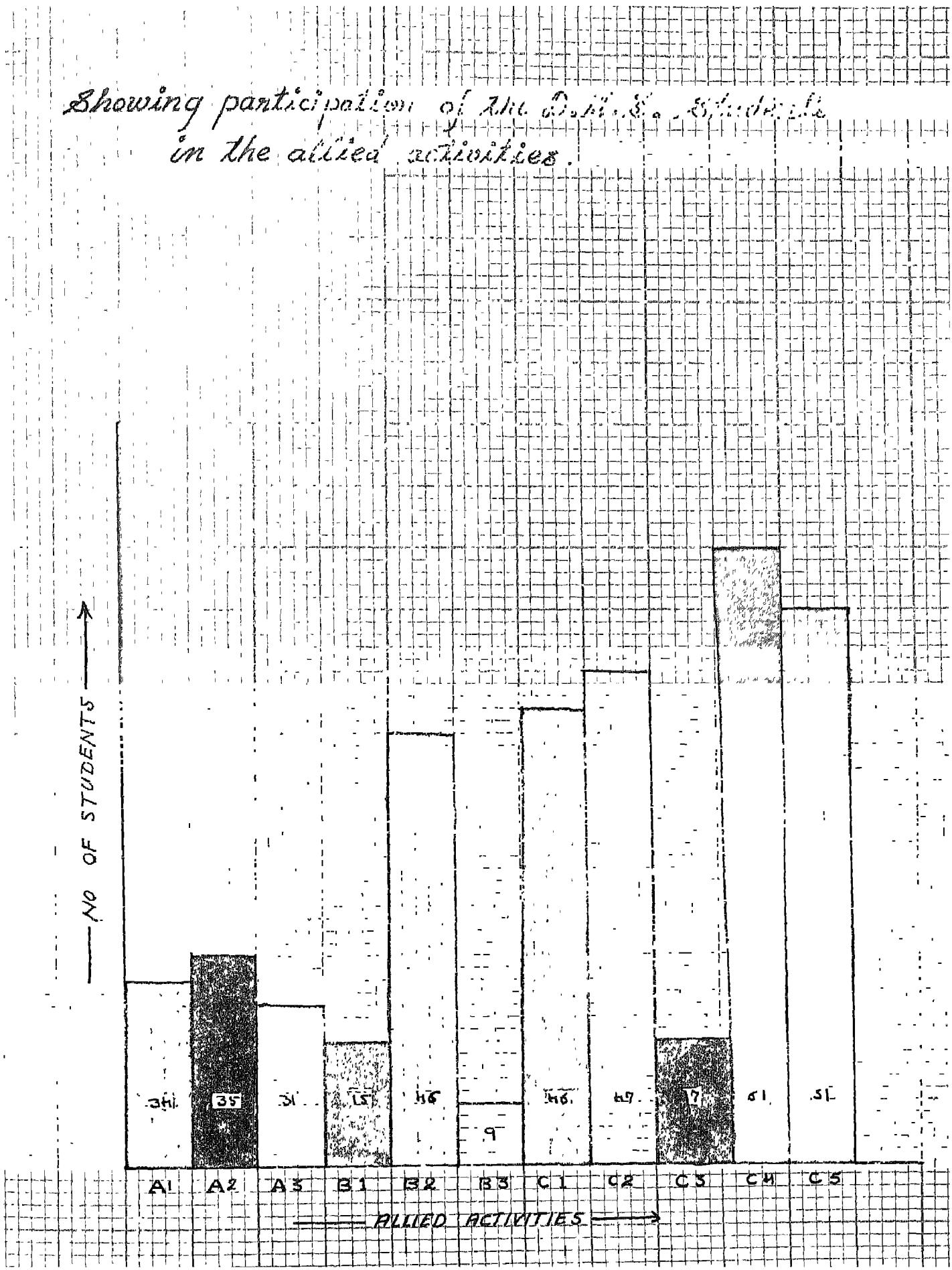


Table No.-6

Showing the relationship between high achieving students and their participation in allied academic activities.

S.No.	Academic attainment in %	Rating score of Allied Activities	R_1	R_2	R_1-R_2 D	D^2	
1	61	12	10.0	6.5	3.5	12.25	
2.	62	10	9.0	9.5	-0.5	0.25	
3.	72	16	3.0	1.0	2.0	4.00	
4.	65	11	6.0	8.0	-2.0	4.00	$\sum D^2 = 55$
5.	70	14	4.5	4.0	0.5	0.25	
6.	75	15	2.0	2.0	0.0	0.00	
7	63	10	7.5	9.5	-2.0	4.00	
8.	63	12	7.5	8.5	1.0	1.00	
9.	70	14	4.5	4.0	0.5	0.25	
10	80	14	1.0	4.0	-3.0	9.00	

$\sum D^2 = 55.00$

$$r = 1 - \frac{6 \sum D^2}{N(N-1)} = 0.79$$

Table No. 7

Showing the relationship between high achieving students and their participation in allied activities promoting aesthetic sense.

S.No.	Academic attainment in %	Rating score of Allied Activities	R_1	R_2	D	D^2	
1	61	5	10.0	8.5	1.5	2.25	
2	62	5	9.0	8.5	0.5	0.25	
3	72	6	3.0	7.0	-4.0	16.00	
4	65	10	6.0	3.0	3.0	9.00	
5	70	12	4.5	2.0	2.5	6.25	
6	75	14	2.0	1.0	1.0	1.00	$\Sigma D^2=58.50$
7	63	8	7.5	5.0	2.5	6.25	
8	63	5	7.5	10.0	-2.5	6.25	
9	70	7	4.5	6.0	-1.5	2.25	
10	60	9	1.0	4.0	-3.0	9.00	
					$\Sigma D^2=$	58.50	

$$r=1-\frac{6\Sigma D^2}{N(N^2-1)} = 0.64$$

Table No. 8

Showing the relationship between high achieving students and their participation in physical and recreational activities.

S.No.	Academic attainment in %	Rating score of Allied Activities	R_1	R_2	D	D^2	
1	61	14	10.0	8.0	2.0	4.00	
2	62	15	9.0	6.0	3.0	9.00	
3	72	16	3.0	4.0	-1.0	1.00	
4	65	19	6.0	1.5	4.5	20.25	
5	70	15	4.5	6.0	-1.5	2.25	$\sum D^2=170.00$
6	75	21	2.5	1.0	1.0	1.00	
7	63	19	7.5	1.5	6.0	36.00	
8	65	15	7.5	6.0	1.5	2.25	
9	70	11	4.5	10.0	-5.5	30.25	
10	60	12	1.0	9.0	-8.0	64.00	

$$r=1-\frac{6\sum D^2}{N(N^2-1)} = 0.03$$

It will be seen from the table 6 that the correlation between the high achievement and intellectually challenging acticity is 0.79 which denotes very high relationship. On the basis of it one thing can be said that high achiever boy or girl is likely to do better in allied activities, or we may say that challenging activities, are help in increasing school achievement of the high achievers and therefore, our hypothesis stands.

Further investigations were made with regard to the relationship between high achievement and scores on aesthetic allied activities show 0.64 correlation. This denotes substantial or marked relationship. We can now draw the conclusion that high achievers are likely to do better also in aesthetic allied activities, or aesthetic allied activities are contributing towards better achievement in school subject of the high achieving group.

Table No. 8 gives us correlation 0.03 between the high achievement and physical and recreational activities. This shows that there is negligible tending towards positive side. This confirms our hypothesis No.3 . Furthermore this relationship indicates that high achievers participate comparatively less in physical and recreational activities.

Table No. 9

Showing the relationship between average achieving students and their participation in allied academic activities.

S.No.	Academic attaintment in%	Rating score of Allied activities	R_1	R_2	D	D2
1	48	3	17.5	20.5	-3.0	9.00
2	57	13	3.0	4.5	-1.5	2.25
3	51	7	11.5	10.5	1.0	1.00
4	50	7	14.0	10.5	3.5	12.25
5	57	12	3.0	6.5	-3.5	12.25
6	45	3	23.5	20.5	3.0	9.00
7	49	5	15.5	13.0	2.5	6.25
8	56	14	5.0	2.5	2.5	6.25
9	52	5	8.5	20.5	-12.0	144.00
10	49	3	15.5	20.5	-5.0	25.00
11	58	5	1.0	13.0	-12.0	144.00
12	52	4	8.5	15.5	-7.0	49.00
13	46	4	21.0	15.5	5.5	30.25
14	48	5	21.0	20.5	0.5	0.25
15	51	5	11.5	13.0	1.5	2.25
16	45	3	23.5	20.5	3.0	9.00
17	54	8	6.0	20.5	-13.5	182.25
18	47	0	19.0	0.0	20.0	100.00
19	57	6	3.0	30.5	-16.5	272.25
20	55	13	7.0	4.5	2.5	6.25
21	48	16	17.5	1.0	15.5	240.25
22	51	14	11.5	2.5	9.0	81.00
23	46	11	21.0	8.0	13.0	169.00
24	51	12	11.5	6.5	5.0	25.00
					$\sum D^2 =$	1538.00

$$r = 1 - \frac{6 \sum D^2}{N(N^2-1)} = 0.34$$

Table No. 10

Showing the relationship between average achieving students and their participation in allied activities promoting aesthetic sence.

S.No.	Academic attainment in 1%	Rating score of Allied activities	R_1	R_2	D	
1.	48	5	17.5	11.5	6.0	36.00
2	57	0	3.0	7.0	-4.0	16.00
3	51	5	11.5	11.5	0.0	0.00
4	50	6	14.0	7.0	7.0	49.00
5	57	12	3.0	1.0	2.0	4.00
6	45	3	23.5	19.5	4.0	16.00
7	49	5	15.5	11.5	4.0	16.00
8	56	10	5.0	2.5	2.5	6.25
9	52	4	8.5	14.0	-5.5	30.25
10	52 49	3	15.5	19.5	-4.0	16.00
11	53	3	1.0	19.5	-18.5	342.25
12	52	3	8.5	19.5	-11.0	121.00
13	46	6	21.0	7.0	14.0	196.00
14	46	3	21.0	19.5	1.5	2.25
15	51	3	11.5	19.5	-8.0	64.00
16	45	3	23.5	19.5	4.0	16.00
17	54	3	6.0	19.5	-13.5	182.25
18	47	3	19.0	19.5	0.5	0.25
19	57	3	3.0	19.5	-16.5	272.25
20	53	8	7.0	4.0	3.0	9.0
21	46	10	17.5	2.5	15.0	225.00
22.	51	6	11.5	7.0	4.5	20.25
23	46	5	21.0	11.5	9.5	90.25
24	51	6	11.5	7.0	4.5	20.25
					$\sum D^2$ =	1750.50

$$r = 1 - \frac{6 \sum D^2}{N(N^2 - 1)} = 0.26$$

Table No. 11

Showing the relationship between average achieving students and their participation in physical and recreational activities.

S.No	Academic attaintment ~~exhibited~~ in %	Rating score of Allied activities	R_1	R_2	D	D^2
1	48	22	13.5	1.0	16.5	272.25
2	57	15	3.0	11.5	-8.5	72.25
3	51	17	11.5	5.5	6.0	36.00
4	50	17	14.0	5.5	8.5	72.25
5	57	15	3.0	11.5	-8.5	72.25
6	45	16	23.5	8.5	15.0	225.00
7	49	17	15.5	5.5	10.0	100.00
8	58	20	5.0	2.0	3.0	9.00
9	52	13	8.5	14.5	-6.0	36.00
10	49	5	15.5	22.0	-6.5	42.25
11	58	5	1.0	22.0	-21.0	441.00
12	52	15	8.5	11.5	-3.0	9.00
13	46	7	21.0	18.5	2.5	6.25
14	46	5	21.0	22.0	-1.0	1.00
15	51	9	11.5	16.5	-5.0	25.00
16	45	5	23.5	22.0	1.5	2.25
17	54	5	6.0	22.0	-16.0	256.00
18	47	9	19.0	16.5	2.5	6.25
19	57	7	3.0	18.5	-15.5	240.25
20	53	15	7.0	11.5	-4.5	20.25
21	48	19	17.5	3.0	14.5	210.25
22	51	17	11.5	5.0	6.0	36.00
23	46	13	21.0	14.5	7.5	56.25
24	51	16	11.5	8.5	3.00	9.00
					ΣD^2 =	2156.00

$$\gamma = 1 - \frac{6 \Sigma D^2}{N(N^2-1)} = 0.90$$

Table No. 9 shows the relationship between average achievement (45% to 60%) and challenging activities which is 0.54, this shows that there is slight correlation. It means that average achievers are not doing equally well in challenging activity than those of high achievers. The positive correlation 0.54 shows that average achievers irrespective of sex are being benefited in school subject by these activities. But the amount of benefit is not so high as in case of high achievers, hence our hypothesis No. 4 stands rejected. Average achievers are not doing equally well but their participation in challenging activities is of low level.

Table No. 10 gives us the correlation of average achievement and aesthetic activities which is 0.26. This correlation denotes positive relationship of the two at a low level. This reveals that average achievers participate in aesthetic activities is not much. The inference drawn here is in accordance with the above result. It means average achievers are not only doing well in challenging activities but also in aesthetic activities.

The obvious inference that one can draw in the face of the evidence thus collected is that there is very high correlation i.e. 0.90 between average achievement and physical and recreational activities. This gives us one of the revealing facts that average students participate more in physical and recreational activities rather than intellectually challenging and aesthetic activities. This also confirms the result drawn in Table No. 11.

Table No. 12

Showing the relationship between low achieving students and their participation in allied academic activities.

S.No.	Academic attainment in%	Rating scbre of Allied activities	R_1	R_2	D	D^2
1.	41	3	7.0	16.0	-9.0	81.00
2	37	6	9.5	9.0	0.5	0.25
3	43	11	5.0	4.0	1.0	1.00
4	43	6	5.0	9.0	-4.0	16.00
5	36	7	11.5	7.0	4.5	20.25
6	31	4	15.0	11.0	4.0	16.00
7	35	3	13.0	16.0	-3.0	9.00
8	34	5	14.0	16.0	-2.0	4.00
9	45	3	1.0	16.0	-15.0	225.00
10	43	3	5.0	16.0	-11.0	121.00
11	38	6	8.0	9.0	-1.0	1.00
12	36	13	11.5	1.0	10.5	110.25
13	37	10	9.5	6.0	3.5	11.25
14	30	12	18.0	2.0	14.0	196.00
15	30	5	18.0	16.0	2.0	4.00
16	18	3	20.0	16.0	4.0	16.00
17	44	11	2.5	4.0	-1.5	2.25
18	19	11	19.0	4.0	15.0	225.00
19	23	3	17.0	16.0	1.0	1.00
					$\sum D^2 =$	1060.25

$$\gamma = 1 - \frac{6 \sum D^2}{N(N^2-1)} = 0.06$$

Table No. 13

Showing the relationship between low achieving students and their participation in allied activities promoting aesthetic sense.

S.No.	Academic attainment in %	Rating score of Allied activities	R_1	R_2	D	D^2
1	41	5	7.0	10.5	-3.5	12.25
2	37	6	9.5	7.0	2.5	6.25
3	43	6	5.0	7.0	-2.0	4.00
4	45	10	5.0	2.0	3.0	9.00
5	36	12	11.5	1.0	10.5	110.25
6	32	4	15.0	13.0	2.0	4.00
7	35	3	13.0	16.5	-3.5	12.25
8	34	3	14.0	16.5	-2.5	6.25
9	45	3	1.0	16.5	-15.5	240.25
10	43	3	5.0	16.5	-11.5	132.25
11	38	3	8.0	16.5	-8.5	72.25
12	36	8	11.5	4.5	7.0	49.00
13	37	8	9.5	4.5	5.0	25.00
14	30	6	16.0	7.0	9.0	81.00
15	20	3	18.0	16.5	2.5	6.25
16	18	5	20.0	10.5	9.5	90.25
17	44	9	2.5	3.0	-0.5	0.25
18	19	5	19.5	10.5	8.5	72.25
19	25	5	17.0	10.5	6.5	42.25
					ΣD^2	975.25

$$r = 1 - \frac{6 \Sigma D^2}{N(N^2-1)} = 0.14$$

Table No. 14

Showing the relationship between low achieving students and their participation in physical and recreational activities.

S.No.	Academic attainment in %	Rating score of Allied activities	R_1	R_2	D	D^2
1	41	22	7.0	2.0	5.0	25.00
2	37	25	9.5	1.0	8.5	72.25
3	43	17	5.0	5.0	0.00	0.00
4	43	15	5.0	7.5	-2.5	6.25
5	36	13	11.5	9.5	2.0	4.00
6	51	8	15.0	15.0	0.0	0.00
7	35	5	13.0	18.5	-5.5	30.25
8	34	6	14.0	16.5	2.5	6.25
9	45	5	1.0	18.5	-17.5	306.25
10	43	6	5.0	16.5	-11.5	132.25
11	38	10	8.0	12.0	-4.0	16.00
12	36	15	11.5	7.5	4.0	16.00
13	37	18	9.5	3.0	6.5	42.25
14	30	17	16.0	5.0	11.5	121.00
15	20	9	18.0	13.5	4.5	20.25
16	18	13	20.0	9.5	10.5	110.25
17	44	17	2.5	5.0	-2.5	6.25
18	19	11	19.0	11.0	8.0	64.00
19	23	9	17.0	13.5	4.5	20.25
					$\sum D^2 =$	1000.75

$$r = 1 - \frac{6 \sum D^2}{N(N^2-1)} = 0.12$$

Now we come to examine our last hypothesis i.e. Low achievers have low participation in allied activities. The results of the same are shown in the tables given below:

In order to compare the participation of low achievers in three types of activities, the co-efficient of correlations was computed. The following table gives the results:

Table No. 15

S.No.	Category	Correlation.
1	A	0.06
2	B	0.14
3	C	0.12

The relationship of low achievers with 'A' type of allied activities shows that there is negligible relationship between the two, though tending towards positive side. It follows that low achievers have low level of participation in intellectually challenging activities.

Again the correlation of low achievement with aesthetic activities denotes the positive relationship which is negligible. This is in accordance with the above inference.

The correlation between low achievement and physical and recreational type of activities is 0.12. This also denotes negligible relationship.

The above three findings as shown in table No. 15 indicate that low achievers have low participation in allied activities irrespective of the category to which they belong. Hence our hypothesis is retained.

CHAPTER FOURTH

Conclusions And Suggestions

Conclusions

The study was conducted with a view to discern the relationship between intelligence, academic attainment and participation in allied activities. In the course of study different were used to derive results. On the basis of ~~mf~~ of the statistical manipulations and techniques, some predictions could be done in vi w of the hypothesis.

No doubt the sample has its limitations yet it cannot be ruled out that it has come to us as representative one. At the very outset we made an effort to study different institutions, but due to non-availability of desired records and especially lack of allied activities in the school, the research design had to undergo a change.

We started our investigation on the basis of the following hypotheses:-

1. There is a positive correlation between the allied activities and intelligence .
2. The e is a positive correlation between the allied activities and achievement in school subjects.
3. The more intellectually challenging the activities, the more is the participation of high achievers.
4. Average achievers have equally well participation in challenging activities.
5. Low achievers have low participation in allied activities.

The hypothesis that there is positive correlation between the allied activities and intelligence, stands as accepted because it shows the coefficient of correlation 0.192.

The above correlation shows that there is a negligible correlation

though slanting towards the positive side. This also rejects the notion that intelligent students show poor participation in allied activities.

In this connection it can also be predicted that an intelligent boy may or may not be doing well in allied activities. Besides this a student who is active in allied activities may not posses superior intelligence. This thing we can derive on the fact that there is very low coefficient of correlation between the two variables.

An effort was also made to find out the relationship between allied activities and achievement. To this the study provides the hypothesis that there is a positive correlationship between the allied activities and achievement in school subject.

On the basis of the statistical treatment of the data collected, it can be infered that there is positive correlation between the allied activities and achievements though it is not conclusively. Allied activities do not contribute significantly towards achievement.(Table No. 5)

The specific study of the Demonstration School, attached to the Regional College of Education, Bhopal was done to assertain the hypothesis:-

(i) The more intellectually challenging the activity, the more is the participation of high achievers.

(ii) Average achievers have equally well participation in challenging activities.

(iii) Low achievers have low participation in allied activities.

The study reveals that:-

Correlation between the high achievement and participation in intellectually challenging activities is 0.79 (Table No. 6.)

On the basis of it, one thing can be predicted that high achiever boy or

girl is likely to do better in allied activities, or we may say that challenging activities help in increasing school achievement of the high achievers.

Further investigation shows that the coefficient of correlation between high achievement and scores on aesthetic allied activities is 0.64 (Table No. 7). This denotes substantial or marked relationship. On the basis of it, it can be said that high achievers are likely to do better also in aesthetic allied activities, or aesthetic allied activities are contributing towards better achievement in school subjects of the high achieving group.

A glance to the Table No. 8 reveals that coefficient of correlation between the high achievers and physical and recreational activities is 0.03. This shows a positive relation (quite negligible) and confirms the hypothesis that higher achievers participate comparatively less in physical and recreational activities.

The relationship between average achievement(45% to 60%) and challenging activities which is 0.34 (Table No. 9) shows that there is slight correlation. It can not be said that average achievers are not doing equally well in challenging activities than those of high achievers.

The correlation 0.34 shows that average achievers are being benifited by those activities, but it is negligible. Hence the hypothesis (ii) stands rejected. Average achievers are not doing equally well but their participation in challenging activities is of low level.

Average achiever's participation in aesthetic allied activities is negligible. Table No. 10

Whereas we find that there is ~~a very~~ co-efficient of correlation

between average achievement and physical and recreational activities is 0.90 (Table No. 11) This gives out a remarkable finding that average student participates mostly in physical and recreational activities rather than intellectually challenging and aesthetic activities. This can also be derived from Table No. 9&10.

Above all the relationship between Low achievers and challenging allied activities is negligible (0.06) (Table No. 12) though tending towards positive side. It also indicates that low achievers have low level of participation in intellectually challenging activities. The same can be said about aesthetic allied activities and physical and recreational activities (Table No. 15).

On the basis of these findings it can be predicted that low achievers have low participation in allied activities irrespective of the categories to which they belong.

Suggestions For Further Studies.

(i) On the basis of the data collected further studies can be done to locate the interest areas in allied activities of high achievers, average achievers and lows achievers.

(ii) A study to investigate into the areas of participation in allied activities by the boys and girls separately may present a fine comparative study and new ground can be broken in their respective field of interests and participation.

(iii) A study can also be taken to find out the environmental differences prevaling in various institutions in view of allied activities.

(iv) Allied activities help in proper growth of the child. This proposition can be taken as a guide line for further verification of new hypothesis on the basis of the findings of the present study.

(v) In the present study an effort has been made to put the allied activities into three well defined areas. Further norms can become the subject of study.

(vi) It will be interesting to study the relationship of the students participation in allied activities to their :-

a- home environment,

b- school environment, and

c- community environment.

(vii) Further investigation can be done to ascertain which activity or activities help in releasing the innate qualities of the child in their different areas.

Appendix

- Inquiry Form
- Rating Scale
- Bibliography.

Telephone
No.4959.

Demonstration School
Regional College of Education
Bhopal.

S.K.Gupta,
M.A.,M.Ed.
Headmaster.

Dated the 31st October, 1968.

Dear Sir,

Co-curricular activities occupy an important place alongwith the academic pursuits in the School Programme. Every school manages for a few co-curricular activities according to its facilities and convenience.

My colleague Mr. S.N.L.Bhargava is investigating into relationship between the academic attainment and participation in the Co-curricular activities for his M.Ed., Thesis. Some traditional idealists supposed a contradiction between them; while in recent concept of curriculam both are complimentary. But this relationship needs investigation.

Co-curricular activities have been divided into the following catogories for convenience sake:-

(A) Allied Academic Activities.

(B) Allied activities promoting aesthetic activities.

(C) Physical & recreational activities.

You might be providing for some such activities at your school. Your school has gained reputation in the town, therefore, we desire to include it for this study.

Kindly fill in the attached proforma pertaining to co-curricular activities at your earliest convenience and mail it on the above address.

Yours faithfully,

To _____
_____

(S.K.Gupta)

Questionaire to the Principals of The Higher Secondary School/Junior Colleges.

The Co-curricular activities occupy a significant place in the total school schedule. A list of such activities is given below. Please tick mark (✓) for the activities in the suitable column.

1. If more than 50% of the school population participates in an activity, please mark in colurn first i.e. " Most Popular".

2. If above 10% of the school population participates in an activity, please mark in column second i.e. "Popular".

3. In case very few students participate in an activity please mark in column third i.e. " rare".

1. Allied Academic Activities	Most popular	Popular	Rare
(a) Debate			
(b) Rhyme recitation			
(c) Story telling			
(d) Extempore debate.			
(e) Last letter poem competition.			
(f) Word making competition.			
(g) Essay Writing.			
(h) Good hand writing competition.			
(i) Maintenance of weather charts.			
(j) Making of charts.			
(k) Making of models.			
(l) Collection of the life of great man.			

2. Allied Activities Promoting to Aesthetic sense.	Most Popular	Popular	Rare
(a) Morning Assembly.			
(b) Community Lunch.			
(c) Dance.			
(d) Music Vocal.			
(e) Music Instrumental.			
(f) Dramatics			
(g) Shadow Play.			
(h) Fancy dress.			
(i) Observation of important days			

3. Physical and Recreational Activities	Most Popular	Popular	Rare
(a) Games			
(b) Sports			
(c) Swimming.			
(d) Exercises.			
(e) Gymnastics.			
(f) Drill.			

Rating Scale For Recitation

School _____ Average Rating _____

Name _____ Session _____

Class _____

1	2	3	4	5
Highly inappropriate and defective reaction, never participates.	Mostly inappropriate, defective recitation. A little participation in recitation.	Partially correct and appropriate, recitation usual participation in recitation.	Mostly correct and effective recitation. Active and effective participation in recitation.	Highly correct and effective recitation, maximum effective participation and recitation.

Rating Scale For Creative Writing

School _____ Average Rating _____

Name _____ Session. _____

Class _____

1	2	3	4	5
Highly inappropriate, irrelevant, disorganised, no participation.	Mostly inappropriate, irrelevant and dis-organised. A little participation with no originality.	Partially appropriate, some originality and organised usual participation with a somewhat originality.	Most correct and appropriate and original, active participation and original.	Highly appropriate, correct and original, maximum participation and maximum originality.

Rating Scale For Dancing

School _____ Average Rating _____

Name _____ Session _____

Class _____

1.	2.	3.	4.	5
Highly inappropriate, graceless and artificial presentation. Never participates.	Mostly inappropriate, graceless and artificial presentation. A little participation with little grace.	Appropriate, somewhat graceful and natural presentation. Usual participation with grace.	Mostly appropriate graceful and natural active participation with grace.	Highly appropriate, graceful & highly natural maximum participation with maximum grace.

Rating Scale For Debate

School _____ Average Rating _____

Name _____ Session _____

Class _____

1.	2.	3.	4.	5
Highly irrelevant, very poor content, no originality. Never participates	Not quite relevant, shallow content, no originality, a little participation.	Tolerably relevant satisfactory content not quite original, usual participation.	Mostly relevant, rich content, effective expression, somewhat original, actual participation.	Highly relevant very rich content, most effective expression, original, maximum participation.

Rating Scale For Music

School _____ Average Rating _____

Name _____ Session _____

Class _____

1	2	3	4	5
Highly inappropriate, irregular with no musical harmony. Never participates.	Mostly inappropriate, irregular with no musical harmony. A little participation with no musical harmony.	Somewhat appropriate, regular and carries harmony, usual participation with musical harmony.	Mostly appropriate, regular and balanced musical notes. Active participation with effective musical harmony.	Highly appropriate, and musical, maximum participation with musical harmony.

Rating Scale For Dramatics

School _____ Average Rating _____

Name _____ Session _____

1	2	3	4	5
Highly graceless, inappropriate, indistinct. Never participates.	Mostly graceless, inappropriate, indistinct. A little participation with no natural disposition.	Partially graceful, somewhat appropriate, and distinct. usual participation with somewhat natural disposition.	Mostly appropriate, natural and distinct. Active participation with natural disposition.	Highly appropriate natural & distinct, maximum participation and natural disposition.

Rating Scale For Games.

School _____ Average Rating _____

Name _____ Session _____

Class _____

1	2	3	4	5
Plays foul, lacks spirit. No participation.	Mostly unfair, lacks spirit. A little participation with no spirit.	Fair in play, possesses spirit, usual participation with some spirit play.	Most fair play, mostly in spirit, active participation with play spirit.	Highly fair play, Highly in spirit, maximum participation with high play spirit.

Rating Scale For Sports

1	2	3	4	5

School _____ Average Rating _____

Name _____ Session _____

Class _____

1	2	3	4	5
Plays foul with no understanding, no participation.	Mostly plays foul with no understanding. A little participation and understanding or technique.	Observes rules, understands the techniques, somewhat possesses sportsman spirit, usual participation with understanding of technique.	Most abiding, greater understanding of techniques, possesses sportsman spirit Active participationwith greater understanding of technique.	Highly abiding, highly understanding of techniques and possesses sportsmanship. Maximum participation with maximum understanding of technique.

Rating Scale For Community Service

School _____ Average Rating _____

Name _____ Session _____

Class _____

1	2	3	4	5
Avoids joining community service . Never participates.	Joins indifferently community service. Rarely participates with no initiation.	Joins willingly when asked, usually participates with somewhat initiation.	Mostly and willingly joins. Actively participates with initiation.	Highly initiative in community service, maximum participation and initiation.

Rating Scale For Scouting.

School _____ Average Rating _____

Name _____ Session _____

Class _____

1	2	3	4	5
Reluctant to serve or learn scouting. Never participates in scouting.	Attends scouting irregularly and indifferent in learning. Rarely participates with no initiation.	Attends scouting with willingness and learns, usually participates with somewhat initiation.	Mostly attends scouting with regularity, learns willingly. Actively participates with initiation.	High initiation in scouting with maximum participation and learning, maximum participation and initiation.

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